

Editorial Department.

CORTICAL LOCALIZATION.

THE old controversy between the physiologists Goltz and Munk has been again revived. The discussion on the localization of cortical functions at the meeting of German naturalists in Strasburg proved that the whole question is still *sub judice*. At that meeting Prof. Goltz, who is evidently very eager to obliterate the impressions of his unsatisfactory demonstrations at the London and Berlin Congresses, exhibited four dogs with mutilated brains. Goltz claimed that No. 1 had forfeited the greater part of the left cerebral cortex; No. 2 the greater part of both occipital lobes; that in No. 3 all but the frontal lobes had been destroyed; and that in No. 4 the internal capsule had been completely divided. None of these dogs exhibited those defects which Munk's theories would lead one to expect. The dogs were shown at a morning session, and in the afternoon Goltz demonstrated the brains of these animals. These operations of Goltz's were quite successful, and exception was taken only to No. 4, whose internal capsule some members of the Congress thought had not been entirely divided. Prof. Goltz must therefore adduce further proof if he hopes to convince us that "destruction or division of the internal capsule is not necessarily followed by paralysis of the muscles of the opposite side of the body." We have the very greatest admiration for Goltz's genius, but it would be well if he would pay more attention to human pathology.

A capable critic observes that each one of Goltz's four dogs exhibited some peculiarity of behavior, and that, therefore, the question of localization of functions was not definitely settled by this demonstration; but it is a mistake to suppose that Goltz is

warring against every theory of localization; he is opposed mainly to such "mapping out" of the functional areas of the cortex as Munk and Ferrier have indulged in. Ferrier's areas have fallen into disfavor, and it is questionable whether Munk's limited areas will stand the test of further investigation. It is worthy of note that von Gudden is inclined to accept the views of Goltz, and that Nothnagel concedes the force of Goltz's arguments, and believes that the facts of human pathology and of experimental physiology can be reconciled only by assuming that one hemisphere can assume the functions of the other more readily in animals than in man. But how about the maintenance of special functions after extirpation of those areas in both hemispheres which are supposed to govern such special functions? And if any one part of either hemisphere can act as substitute for any other, then there is no true localization.